

**REMARKS**

Upon entry of the Amendment Under 37 C.F.R. § 1.116 filed on February 22, 2010, claims 1-5, 7-13, 15-23 and 26 to 30 are all the claims pending in the application.

Claims 1, 2, 6, 7 and 11-30 have been provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1 to 21, 23-29 and 31-34 of copending Appln. No. 10/577,849.

Applicants filed an executed Terminal Disclaimer with the Amendment Under 37 C.F.R. § 1.116 filed on February 22, 2010. Applicants request withdrawal of this rejection in view of the submission of the Terminal Disclaimer.

Claims 1-7, 9, 10, 13, 23 and 26-31 have been rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative under 35 U.S.C. § 103(a) as obvious over JP 10-116605 to Yamada.

In addition, claim 14 has been rejected under 35 U.S.C. § 103(a) as obvious over Yamada.

Applicants submit that Yamada does not disclose or render obvious the subject matter of the present claims and, accordingly, request withdrawal of this rejection.

As set forth in the Amendment Under 37 C.F.R. § 1.116 filed on February 22, 2010, applicants amended independent claim 1 to incorporate recitations from claims 6 and 14. Applicants canceled claims 6, 14, 24, 25, 31 and 32.

Applicants have now further amended claim 1 to no longer recite the roundness.

Thus, the present invention, as set forth in claim 1 as amended above, is directed to a carbon material for forming a battery electrode, comprising carbon powder having a homogeneous structure which is produced by causing an organic compound, serving as a raw material of a polymer, to permeate into carbonaceous particles, and subsequently polymerizing the organic compound, followed by thermal treatment at a temperature of 1,800 to 3,300°C, and wherein a graphite crystal structure region and an amorphous structure region are distributed throughout the entirety of a particle constituting the carbon material from the surface of the particle to a center portion thereof and the carbonaceous particles have an average particle size of 10 to 40  $\mu\text{m}$ .

Thus, in the present invention, a graphite crystal structure region and an amorphous structure region are distributed throughout the entirety of a particle constituting the carbon material from the surface of the particle to a center portion thereof and the carbonaceous particles have an average particle size of 10 to 40  $\mu\text{m}$ .

The electrode material of Yamada is produced by depositing thermosetting resin on the surface of sheet-shaped carbon fiber and subjecting it to carbonizing and subsequent pulverization, as disclosed in the Examples of Yamada.

In particular, in the Examples of Yamada, after making 3-millimeter-long pitch-based carbon fiber and polyacrylonitrile carbon fiber into a sheet, the sheet was cured by impregnating the sheet with an acetone solution of phenol resin and the sheet was subjected to heat treatment as disclosed in paragraph [0023]. The sheet was then pulverized so as to have an average fiber length of 100  $\mu\text{m}$  as disclosed in paragraph [0025] of Yamada. Accordingly, the particle size of

the particles as defined in claim 1 as amended above are not disclosed or suggested from the above disclosure of Yamada. Yamada does not have any motivation to adjust particle size at all.

In view of the above, applicants request withdrawal of this rejection.

The Examiner sets forth an additional six separate rejections of various dependent claims that depend directly or indirectly from claim 1, as being obvious over Yamada alone, or Yamada in view of various secondary references.

The six rejections are as follows:

- (1) Claim 8 has been rejected under 35 U.S.C. § 103(a) as obvious over Yamada.
- (2) Claims 11 and 12 have been rejected as obvious over Yamada in view of U.S. 2002/0160266 to Yamazaki et al.
- (3) Claims 15, 18, 19 and 22 have been rejected as obvious over Yamada in view of U.S. Patent 6,447,946 to Nakai et al.
- (4) Claims 16 and 17 have been rejected under 35 U.S.C. § 103(a) as obvious over Yamada in view of Nakai et al and further in view of U.S. 5,776,633 to Mrotek et al.
- (5) Claim 20 has been rejected under 35 U.S.C. § 103(a) as obvious over Yamada in view of Nakai et al and further in view of U.S. Patent 6,194,099 to Gernov et al.
- (6) Claim 21 has been rejected as obvious over Yamada in view of Nakai et al and further in view of U.S. Patent 6,528,211 to Nishimura et al.

Since each of these rejections of dependent claims is based on Yamada as a primary reference, applicants submit that these dependent claims are patentable over Yamada at least for

the same reasons as discussed above in connection with the rejection of claim 1 over Yamada alone.

In view of the above, applicants request withdrawal of each of these rejections.

Claim 24 has been rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent 5,919,589 to Kawakami et al in view of JP 10-116605 to Yamada.

In addition, claim 25 has been rejected under 35 U.S.C. § 103(a) as obvious over Kawakami et al in view of U.S. 5,776,633 to Mrotek et al, JP 10-116605 to Yamada and further in view of U.S. 6,447,946 to Nakai et al.

Applicants canceled claims 24 and 25 in the Amendment Under 37 C.F.R. § 1.116 filed on February 22, 2010. Accordingly, these rejections are moot.

In view of the above, applicants request withdrawal of these rejections.

Claims 1, 31, 32 have been rejected under 35 U.S.C. § 103(a) as obvious over JP 2000-319067 to Kawamata et al.

As noted above, claims 31 and 32 have been canceled, thus leaving only claim 1 as being subject to this rejection.

Applicants submit that Kawamata et al do not disclose or render obvious the subject matter of claim 1 and, accordingly, request withdrawal of this rejection.

Kawamata et al do not disclose a carbon powder having a homogeneous structure which is produced by causing an organic compound, serving as a raw material of a polymer, to permeate into carbonaceous particles, and subsequently polymerizing the organic compound,

followed by thermal treatment at a temperature of 1,800 to 3,300°C. Kawamata et al do not appear to employ an organic compound serving as a raw material of the polymer, but instead employ the polymer itself. As stated in the present specification at page 15, line 30 to page 16, line 6, when a polymer itself is employed, the polymer cannot uniformly permeate into the inside of the carbonaceous material as compared with the case that where a polymer-forming raw material is employed, and excellent characteristics cannot be obtained in the resultant electrode material.

Kawamata et al neither disclose nor suggest the diameter size of the particles as defined in claim 1 as amended above.

In view of the above, applicants request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)  
U.S. Application No.: 10/559,615

Attorney Docket No.: Q76011

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

Sheldon I. Landsman  
Sheldon I. Landsman  
Registration No. 25,430

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE  
**23373**  
CUSTOMER NUMBER

Date: March 22, 2010